

Listing of Claims

1. (Currently Amended) A video recorder ~~(10)~~ comprising:
 - means ~~(30)~~ for recording input video data in a time-shift buffer ~~(22)~~ on a portion of a recording medium ~~(24)~~;
 - means ~~(32)~~ for reading video data from the time-shift buffer ~~(22)~~;
 - means ~~(42)~~ for independently trimming video data at a chronological beginning of the time-shift buffer to maintain at least a guaranteed minimum available replay time between the chronological beginning of the time-shift buffer and the video data read at a current time;
 - means ~~(28, 34)~~ for pausing the reading of the video data from the time-shift buffer to pause a current read time;
 - means ~~(30, 38)~~ for independently enlarging the time-shift buffer at a chronological end of the time-shift buffer with currently input video data.
2. (Currently Amended) The video recorder as set forth in claim 1, wherein the time-shift buffer ~~(22)~~ comprises a single file.
3. (Currently Amended) The video recorder as set forth in claim 2, wherein the recording medium ~~(24)~~ is a hard drive.
4. (Currently Amended) The video recorder as set forth in claim 3, wherein the single file is maintained within a native file system of an operating system included on the video recorder ~~(10)~~.
5. (Currently Amended) The video recorder as set forth in claim 1, wherein the time-shift buffer ~~(22)~~ includes a plurality of files.
6. (Currently Amended) The video recorder as set forth in claim 5, wherein the recording medium ~~(24)~~ is a hard drive.
7. (Currently Amended) The video recorder as set forth in claim 6, wherein the plurality of files are maintained within a native file system of an operating system included on the video recorder ~~(10)~~.

8. (Currently Amended) The video recorder as set forth in claim 7, further including a means ~~(37)~~ for performing operations on the plurality of files.

9. (Original) The video recorder as set forth in claim 1, further including:
means for terminating the pausing of the reading of video data, such that reading of the video data from the time-shift buffer is recommenced.

10. (Original) The video recorder as set forth in claim 1, further including:
means for fast-forwarding through the video data in the time-shift buffer; and
means for contracting the size of the time-shift buffer.

11. (Currently Amended) The video recorder as set forth in claim 1, further including:
a real-time buffer ~~(52)~~, the input module ~~(30)~~ passing video data to the output module ~~(32)~~ via the real-time buffer ~~(52)~~ when a user is viewing in real time without a time delay.

12. (Currently Amended) A video recorder ~~(10)~~ comprising:
a hard drive ~~(24)~~;
a varying size time-shift buffer ~~(22)~~ on the hard drive ~~(24)~~, which provides a guaranteed minimum replay time;
an input module ~~(30)~~ for receiving the video input data and writing the video input data to the time-shift buffer ~~(22)~~ on the hard drive ~~(24)~~;
an output module ~~(32)~~ for reading the written video from the time-shift buffer ~~(22)~~ and displaying it via the output video interface ~~(26)~~; and
a trimming module ~~(42)~~ for adjusting the size of the time-shift buffer ~~(22)~~, such that the size of the time-shift buffer ~~(22)~~ is sufficient to maintain the guaranteed minimum replay time.

13. (Currently Amended) The video recorder as set forth in claim 12, such that the hard drive ~~(24)~~ includes at least one standard file system for holding the time-shift buffer.

14. (Currently Amended) The video recorder as set forth in claim 13, further including a file system module ~~(37)~~ for adding, deleting and maintaining files on the at least one standard file system.

15. (Currently Amended) The video recorder as set forth in claim 14, wherein the time-shift buffer ~~(22)~~ comprises a single file.
16. (Currently Amended) The video recorder as set forth in claim 14, wherein the time-shift buffer ~~(22)~~ includes a plurality of files.
17. (Currently Amended) The video recorder as set forth in claim 12, further including:
a first user control ~~(29)~~ for alternately pausing and recommencing the reading of the video data from the time-shift buffer.
18. (Currently Amended) The video recorder as set forth in claim 17, further including a second user control ~~(29)~~ for fast-forwarding the reading of the video data from the time-shift buffer.
19. (Currently Amended) The video recorder as set forth in claim 12, further including:
a read pointer ~~(40)~~ utilized by the output module ~~(32)~~ for pointing to the appropriate segment ~~(36)~~ to be read from the time-shift buffer ~~(22)~~; and
a write pointer ~~(38)~~ utilized by the input module ~~(30)~~ for pointing to the appropriate segment ~~(36)~~ to be written in the time-shift buffer ~~(22)~~.
20. (Currently Amended) The video recorder as set forth in claim 19, further including a real-time buffer ~~(52)~~, the input module ~~(30)~~ passing video data to the output module ~~(32)~~ via the real-time buffer ~~(52)~~ when a user is viewing in real time without a time delay.
21. (Currently Amended) A method of time-shift buffering comprising:
recording input video data in a time-shift buffer ~~(22)~~ on a portion of a recording medium ~~(24)~~;
reading video data from the time-shift buffer ~~(22)~~;
independently trimming video data at a chronological beginning of the time-shift buffer to maintain at least a guaranteed minimum available replay time between the chronological beginning of the time-shift buffer and the video data read at a current time;
pausing the reading of the video data from the time-shift buffer to pause a current read time;

independently enlarging the time-shift buffer at a chronological end of the time-shift buffer with currently input video data.

22. (Original) The method as set forth in claim 21, further including:
terminating pausing the reading of video data, such that reading of the video data from the time-shift buffer is recommenced; and
when the reading of the video data is recommenced, freezing a size of the time-shift buffer.
23. (Original) The method as set forth in claim 22, further including:
fast-forwarding through the video data in the time-shift buffer; and
contracting the size of the time-shift buffer.
24. (Original) The method as set forth in claim 21, further including:
fast-forwarding through the video data in the time-shift buffer; and
contracting the size of the time-shift buffer.
25. (Currently Amended) The method as set forth in claim 21, such that the input module-(30), the output module (32) and the trimming module (42) operate as separate processes.
26. (Currently Amended) The method as set forth in claim 21, such that the input module-(30), the output module-(32) and the trimming module (42) operate as a single-thread process.
27. (Currently Amended) The method as set forth in claim 21, further including:
storing input video data in a real-time buffer-(52); and
reading video data from the real-time buffer-(52), such that the reading video data from the real-time buffer-(52) is performed when a user is viewing at a real-time rate without a time-delay.

28. (Original) A method for controlling the size of a time-shift buffer comprising:
- writing current data to a chronological end of the time-shift buffer, thereby increasing the size of the time-shift buffer;
 - determining a size by which the time-shift buffer is to be reduced;
 - trimming a chronological beginning of the time-shift buffer by a largest possible size not exceeding the determined size.
29. (Original) The method as set forth in claim 28 wherein the writing and the trimming are performed within a native file system and the time-shift buffer conforms to standards of a file in the native file system.